

ABSTRACT

A ready-to use, stable, gelled polymer droplet-in-oil dispersion is described which helps in in-situ formation of a multitude of small solid, semisolid, or gelled microcarriers. The dispersion is placed into a body in a semisolid form and cures to form the delivery system in-situ. The process for making such a dispersion comprises the steps of (i) dissolving a polymer in a biocompatible solvent at an elevated temperature to form a polymer solution, (ii) preparing a second oil phase solution of a biocompatible oil and a biocompatible emulsifier at an elevated temperature, (iii) mixing the polymer solution with the oil phase solution at an elevated temperature and subsequently cooling to refrigeration temperature. Placing the gelled dispersion within a body produces the microcarrier delivery system in-situ. The composition of a syringeable, biodegradable dispersion incorporating an effective level of a biologically active agent before injection into a body provides a novel controlled delivery system of drugs for healthcare applications.